SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q77750

Application No.: 10/572,780

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A perpendicular magnetic recording medium comprising at least

a nonmagnetic under layer,

a magnetic layer, and

a protective layer

stacked on a nonmagnetic substrate, wherein

said magnetic layer includes a ferromagnetic crystal grain and a nonmagnetic grain boundary region;

said crystal grain boundary region comprises at least two kinds of oxide selected from those of Y oxides, W oxides, Mg oxides, Al oxides, Zr oxides, Hf oxides, Ti oxides, Ce oxides, Si oxides, Cr oxides, Ni oxides, and Ta oxides, and

said magnetic layer includes a total of 0.1 to 30 mol% of the oxides which form said crystal grain boundary region;

said oxides which form said crystal grain boundary region comprises:

at least one oxide selected from group A of Y oxides, W oxides, Mg oxides, Al oxides, Zr

oxides, and Hf oxides; and

at least one oxide selected from group B of Ti oxides, Ce oxides, Si oxides, Cr oxides, Ni

oxides, and Ta oxides; and

the content of the oxide selected from the group A in mole percentage is smaller than the

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content of the oxide selected from the group B in mole percentage in the oxides which form said crystal grain boundary region.

- 2. (canceled).
- 3. (canceled):
- 4. (currently amended): The perpendicular magnetic recording medium according to claim 3 1, wherein the oxide selected from said group A includes at least one oxide selected from Y oxides and W oxides.
- 5. (currently amended): The perpendicular magnetic recording medium according to claim 3 1, wherein the oxide selected from said group B includes at least one oxide selected from Si oxides, Cr oxides, and Ta oxides.
 - 6. (canceled):
- 7. (currently amended): The perpendicular magnetic recording medium according to claim 3 1, wherein oxygen concentration of the oxide selected from the group B is smaller than ratio of concentration calculated from the stoichiometric ratio in the oxides which form said crystal grain boundary region.
- 8. (original): The perpendicular magnetic recording medium according to claim 1, wherein oxygen concentration to all oxidizable elements in the crystal grain boundary region is

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smaller than the concentration of that calculated from the sum of the stoichiometric ratio of all oxides.

- 9. (canceled).
- 10. (original): The perpendicular magnetic recording medium according to claim 1, wherein the magnetic layer includes a total of 1 to 20 mol% of the oxides which form said crystal grain boundary region.
- 11. (original): The perpendicular magnetic recording medium according to claim 1, wherein a crystal grain included in said magnetic layer comprises CoPt alloy as a major component.
- 12. (original): The perpendicular magnetic recording medium according to claim 1, wherein said nonmagnetic under layer comprises Ru as a major component.
- 13. (original): The perpendicular magnetic recording medium according to claim 1, which has at least one soft magnetic layer between said nonmagnetic substrate and said nonmagnetic under layer.
 - 14. (original): A magnetic recording/reproducing apparatus comprising; the perpendicular magnetic recording medium according to claim 1,
- a supporting and rotating driving mechanism of the perpendicular magnetic recording medium.

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a magnetic head having a device for recording information on said perpendicular magnetic recording medium and a device for reproducing the recorded information, and

a carriage-assembly in which said magnetic head is supported freely movable relative to said perpendicular magnetic recording medium.

15. (original): A magnetic recording/reproducing apparatus according to claim 14, wherein said read/write head is a single magnetic pole recording head.